



David Vázquez Bermúdez

CONTACT

INFORMATION

Avd. Pere Planas 5
08198 Sant Cugat del Valles, Barcelona
Catalonia, Spain

dvazquez@cvc.uab.es
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(+34) 607665417

RESEARCH INTERESTS

Computer Vision: Scene Understanding, Semantic Segmentation, Object Detection, Pedestrian Detection and 3D Reasoning & Reconstruction.

Machine Learning: Deep Learning, Domain Adaptation and On-line & Transfer Learning.

Robotics: Autonomous Driving.

EDUCATION

PhD in Computer Vision **2013**

[Universitat Autònoma de Barcelona](#), Spain

- Thesis title: Virtual and Real World Adaptation for Pedestrian Detection
- Advisor: Prof. Antonio López
- Area of Study: Computer Vision for Advanced Driver Assistance Systems
- Scholarship: PIF Autonomous University grant

MSc in Artificial Intelligence and Computer Vision **2009**

[Universitat Autònoma de Barcelona](#), Spain

- Dissertation title: The effect of the distance in Pedestrian Detection

Undergraduate degree in Computer Science **2008**

[Universitat Autònoma de Barcelona](#), Spain

- Dissertation title: Intrusion Detection in Intelligent Surveillance Systems

Undergraduate degree in Technical Computer Science **2006**

[Universidade de A Coruña](#), Spain

- Dissertation title: Face Recognition in Barajas Airport

INTERNSHIPS

Post Doc internship **2016-2017**

Montreal Institute for Learning Algorithms (MILA) at [Université de Montréal](#), Québec, Canada

- Scholarship: Tecniospring - Marie Curie Grant
- Objective: To develop deep learning architectures for image semantic segmentation & image generation.
- Advisor: Dr. Aaron Courville

PhD internship **2011-2012**

Dept. of Environment Perception at Daimler AG, Ulm, Germany

- Scholarship: PIF mobility - Autonomous University Grant
- Objective: To develop a complex risk assessment and situation analysis system for pedestrian collision avoidance on-board of a Mercedes car. Confidential results.
- Advisor: Prof. Dr. Darius M. Gavrilă

Undergraduate internship **2005-2006**
FRAV: Face Recognition and Artificial Vision at Universidad Rey Juan Carlos, Madrid, Spain

- Scholarship: SICUE-Seneca grant
- Advisor: Dr. Enrique Cabello

Undergraduate internship **2004-2005**
Universidad Autónoma de Madrid, Madrid, Spain

- Scholarship: SICUE-Seneca grant

ADDITIONAL
FORMATION:

Self-Driving Car Engineer Nanodegree **2017**
Udacity
Deep Learning Summer School **2016**
Montreal Institute of Learning Algorithms (MILA), Montreal, Canada
Summer School on Machine Learning **2013**
AERFAI, Benicàssim, Spain
Winter School on Eye Tracking Methodology **2009**
AERFAI, Barcelona, Spain
Summer School on New Trends in Pattern Recognition for Motion Analysis
2008
AERFAI, Barcelona, Spain

PROFESSIONAL
EXPERIENCE

Research Scientist **2016-Now**
Montreal Institute for Learning Algorithms (MILA) at Université de Montréal, Québec, Canada & **Computer Vision Center**, Spain

- Industrial projects: Huawei, Intel, Audi, Toyota & FiveAI
- Public projects: ACDC

Research Scientist **2012-2016**
Computer Vision Center, Spain

- Industrial projects: Volkswagen, Samsung, & IDIADA
- Public projects: Eco-Driver, ACDC, SGR, Firewatcher & MAPEA2

Assistant Professor **2008-2014**
Computer Science Dept., Universitat Autònoma de Barcelona, Spain

- Subjects: Artificial Intelligence I, Artificial Intelligence II, & AI & CV Master

Software developer (Computer Vision) **2011-2011**
Computer Vision Center, Spain

- Medical Imaging - Computer guided surgery

Software developer (Computer Vision) **2007-2008**
Davantia, Spain

- Intelligent Surveillance System - Intrusion detection

Software developer (Computer Vision) **2005-2006**
Universidad Rey Juan Carlos - Face Recognition & Artificial Vision, Spain

	<ul style="list-style-type: none"> ▪ Face recognition in Barajas airport 	
	Assistant professor Universidad Rey Juan Carlos , Spain	2006-2006
	<ul style="list-style-type: none"> ▪ Subject: Excel I. 	
	Computer assistance Fundación Académica Aula Más , Spain	2005-2006
	<ul style="list-style-type: none"> ▪ Computer assistance (Web, DB,...), customer attendance and teaching 	
TEACHING EXPERIENCE	Machine Learning for Computer Vision Master of Computer Vision at UAB, UOC, UPC and UPF universities, Spain	2013-2017
	Software Design Bachelor of Computer Science at Universitat Autònoma de Barcelona, Spain	2014-2016
	Image Classification MOOC at Coursera	2015
	Object detection MOOC at Coursera	2015
	Software Design Course for a company at Dezac, Barcelona, Spain	2015
	Artificial Intelligence II Bachelor of Computer Science at Universitat Autònoma de Barcelona, Spain	2010-2012
	Artificial Intelligence I Bachelor of Computer Science at Universitat Autònoma de Barcelona, Spain	2008-2010
PARTICIPATION IN RESEARCH PROJECTS	RETEVI Network - Red Temática en Vehículos Inteligentes	2016-2017
	Vehicle Autònom Connectat (VEC) Principal Investigator: Fundació Parc de Recerca UAB (PRUAB) Spanish Project (Catalunya Empren) PIFE-079-16	2016-2017
	ACDC: Autonomous Cooperative Drivers in the City Principal Investigators: Antonio M. López and David Vázquez Spanish Project TRA2014-57088-C2-1-R	2015-2018
	MAPEA2: Movimiento Acostumbrado de los Peatones: Estudio para Atajar los Accidentes. DGT Principal investigator: A.M. López	2015
	MIPRCV Network - Multimodal Interaction in Pattern Recognition and Computer Vision Network of Excellence	2015-2018
	Vehicle automation and localization VISIT project by CVC-ADAS and ASCAMM	2014-Present

	Autonomous vehicle development CVC-ADAS, UPC-IRI, UMH-UWICORE and APPLUS-IDIADA	2014-Present
	eCo-DRIVERS: Ecologic Cooperative Driver and Road Intelligent Visual Exploration for Route Safety Spanish Project TRA2011-29454-C03-00-00	2011-Present
	FireWATCHER: Fire Warning by Aerial Terrain Control of Hot Embers Regions Spanish Project TIN2011-29494-C03-02	2011-Present
	Co-DRIVERS: Cooperative Driver and Road Intelligent Visual Exploration for Route Safety Spanish Project TRA2010-21371-C03-00	2011-2012
	MIPRCV: Consolide Ingenio Spanish Project CSD200700018	2010-2013
	Computer vision based detection and tracking of vehicles and pedestrians for ADAS Spanish Project	2008-2010
PARTICIPATION IN INDUSTRIAL PROJECTS	Audi II Principal investigators: A.M. López	2016-2017
	Audi I Principal investigators: A.M. López	2016
	Toyota Principal investigators: A.M. López	2016
	Five AI Principal investigators: A.M. López	2016
	HUAWEI II Principal investigators: A.M. López	2017
	HUAWEI I Principal investigators: A.M. López	2016-2017
	Yandex Principal investigators: A.M. López	2016-2017
	Intel Principal investigators: A.M. López	2016-2017
	APPLUS+ IDIADA and Toyota Korea Principal investigators: D. Vázquez and A.M. López	2016
	Volkswagen and Seat Principal investigator: A.M. López	2015

	APPLUS+ IDIADA and Toyota Korea Principal investigators: D. Vázquez and A.M. López	2015
	Dezac Principal investigator: J. Serrat & D. Vázquez	2015
	APPLUS+ IDIADA and Toyota Korea Principal investigators: D. Vázquez and A.M. López	2014
	Samsung Poland Principal investigators: D. Vázquez and A.M. López	2014
	Galimplant Principal investigators: José M. Álvarez	2009
PARTICIPATION IN TEACHING INNOVATION PROJECTS	Empleo de herramientas informáticas para monitorizar el proceso de aprendizaje en la asignatura compiladors Principal Investigator: Jorge Bernal	2016
LANGUAGES	Spanish: Native Language Galician: Native Language	English: Fluent proficiency Catalan: Fluent proficiency
PUBLICATIONS	Books Computer vision Trends and Challenges J. Bernal & D. Vázquez Book Chapters From Virtual to Real World Visual Perception using Domain Adaptation – The DPM as Example A.M. Lopez, J. Xu, J.L. Gomez, D. Vazquez and G. Ros In <i>Domain Adaptation in Computer Vision Applications</i> Semantic Segmentation of Urban Scenes via Domain Adaptation of SYNT-HIA G. Ros, L. Sellart, G. Villalonga, E. Maidanik, F. Molero, M. Garcia, A. Cedeño, F. Perez, D. Ramirez, E. Escobar, J.L. Gomez, D. Vazquez and A.M. Lopez In <i>Domain Adaptation in Computer Vision Applications</i> Vision-Based Advanced Driver Assistance Systems D. Geronimo, D. Vazquez and A. de la Escalera In <i>Vision-Based Advanced Driver Assistance Systems</i> Interactive Training of Human Detectors D. Vázquez, A. López, D. Ponsa & D. Gerónimo In <i>Multimodal Interaction in Image and Video Applications Intelligent Systems Reference Library</i> Pedestrian detection: exploring virtual worlds	2013 2017 2017 2017 2013 2012

J. Marín, D. Gerónimo, D. Vázquez, & A. López
In *Handbook of Pattern Recognition: Methods and Applications*, i-Concept Press

Sistemas de Videovigilancia Inteligente 2008
E. Cabello, C. Conde, I. Martín, L.J. Rodríguez, D. Vázquez & J. González
In *Aplicaciones en el Aeropuerto de Barajas*, IUI SI

Journal Papers

A Benchmark for Endoluminal Scene Segmentation of Colonoscopy Images 2017
D. Vazquez, J. Bernal, F.J. Sanchez, G. Fernandez-Esparrach, A.M. Lopez, A. Romero, M. Drozdal, A. Courville
In *Journal of Healthcare Engineering (JHE)*, . IF= 0.912, 75/88 in Health Care Sciences & Services (Q4)

Hierarchical Adaptive SVM for Domain Adaptation. 2016
J. Xu, S. Ramos, D. Vázquez & A. López
In *International Journal on Computer Vision (IJCV)*, 119(2), 159-178. IF= 4.270, 10/130 in Computer Science, Artificial Intelligence (Q1)

Pedestrian Detection at Day/Night Time with Visible and FIR Cameras: A Comparison. 2016
A. González, Z. Fang, Y. Socarrás, J. Serrat, D. Vázquez, J. Xu & A. López
In *Sensors Journal (Sensors)*, 16(6), 820. IF= 2.033, 12/56 in Instruments & Instrumentation (Q1)

On-Board Object Detection: Multi-cue, Multi-modal and Multi-view Random Forest of Local Experts 2016
A. González, D. Vázquez, A. López & J. Amores
In *IEEE Transactions on cybernetics (CYBER)*, 99(), 1-11. IF= 4.943, 6/130 in Computer Science, Artificial Intelligence (Q1), 1/22 in Computer Science, Cybernetics (Q1).

Domain Adaptation of Deformable Part-Based Models 2014
J. Xu, S. Ramos, D. Vázquez & A. López
In *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, 36(12), 2367–2380. IF= 5.694, 4/121 in Computer Science, Artificial Intelligence (Q1), 5/247 in Engineering, Electrical & Electronic (Q1).

Learning a Part-based Pedestrian Detector at Virtual World 2014
J. Xu, D. Vázquez, A. López, J. Marín & D. Ponsa
In *IEEE Transactions on International Transportation Systems (T-ITS)*, Vol. 15(5), pp:2121-2131. IF: 3.064, 2/30 (Q1) in Transportation Science & Technology, 3/122 (Q1) in Engineering, Civil, 20/242 (Q1) in Engineering, Electrical & Electronic.

Virtual and Real World Adaptation for Pedestrian Detection 2013
D. Vázquez, A. López, J. Marín, D. Ponsa & D. Gerónimo
In *Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, Vol. 36(4), pp:797-809. IF= 5.694, 4/121 en Computer Science, Artificial Intelligence (Q1), 5/247 en Engineering, Electrical & Electronic (Q1).

Occlusion Handling via Random Subspace Classifiers for Human Detection 2013
2J. Marín, D. Vázquez, A. López, J. Amores & L. I. Kuncheva

In *IEEE Transactions on Systems, Man, and Cybernetics Part B: Cybernetics*, Vol. 44(3), pp:342-354. IF: 3.236. 12/14 in Computer Science, Artificial Intelligence, (Q1), 1/21 in Computer Science, Cybernetics, (Q1), 4/58 Automation & Control Systems, (Q1).

Conference Papers

PixelVAE: A Latent Variable Model for Natural Images 2017
I. Gulrajani, K. Kumar, F. Ahmed, A. Ali Taiga, F. Visin, D. Vazquez and A. Courville
In *International Conference of Learning Representations (ICLR)*

Embedded Real-time Stixel Computation 2017
D. Hernandez, A. Espinosa, D. Vazquez, A.M. Lopez and J.C. Moure
In *GPU Technology Conference (GTC)*

GPU-accelerated real-time stixel computation 2017
D. Hernandez, A. Espinosa, D. Vazquez, A.M. Lopez and J.C. Moure
In *Winter Applications of Computer Vision (WACV)*

A Benchmark for Endoluminal Scene Segmentation of Colonoscopy Images 2017
D. Vazquez, J. Bernal, F.J. Sanchez, G. Fernandez-Esparrach, A.M. Lopez, A. Romero, M. Drozdal, A. Courville
In *Computer Assisted Radiology and Surgery (CARS)*

The SynthCity Dataset: A Large Collection of Synthetic Images for Semantic Segmentation of Urban Scenes 2016
G. Ros, L. Sellart, J. Materzynska, D. Vázquez & A. López
In *IEEE Computer Vision and Pattern Recognition (CVPR)*

Comparison of two non-linear model-based control strategies for autonomous vehicles 2016
E. Alcalá, L. Sellart, V. Puig, J. Quevedo, J. Saludes, D. Vázquez, A. López
In *IEEE Mediterranean Conference on Control and Automation (MED)*

GPU-based pedestrian detection for autonomous driving 2016
V. Campmany, S. Silva, J.C. Moure, T. Espinosa, D. Vázquez, A. López
In *International Conference on Computational Science (ICCS)*

Embedded real-time stereo estimation via Semi-Global Matching on the GPU 2016
D. Hernández, A. Chacón, J.C. Moure, T. Espinosa, D. Vázquez, A. López
In *International Conference on Computational Science (ICCS)*

GPU-based pedestrian detection for autonomous driving 2016
V. Campmany, S. Silva, J.C. Moure, T. Espinosa, D. Vázquez, A. López
In *GPU Technology Conference (GTC)*. (Best poster award)

Real-time 3D Reconstruction for Autonomous Driving via Semi-Global Matching 2016
D. Hernández, J.C. Moure, T. Espinosa, A. Chacón, D. Vázquez, A. López
In *GPU Technology Conference (GTC)*

Hierarchical online domain adaptation of deformable part-based models 2016

- J. Xu, D. Vázquez & A. López
In *IEEE International Conference on Robotics and Automation (ICRA)*
- Vision-based Offline-Online Perception Paradigm for Autonomous Driving** 2015
G. Ros, S. Ramos, M. Granados, A. Bakhtiary D. Vázquez & A. López
In *IEEE Winter Conference on Applications of Computer Vision (WACV)*
- Multiview Random Forest of Local Experts Combining RGB and LIDAR data for Pedestrian Detection** 2015
A. González, G. Villalonga, D. Vázquez, J. Amores, & A. López
In *IEEE Intelligent Vehicles Symposium (IV)*
- 3D-Guided Multiscale Sliding Window for Pedestrian Detection** 2015
A. González, G. Villalonga, G. Ros, D. Vázquez, & A. López
In *Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA)*
- Spatiotemporal Stacked Sequential Learning for Pedestrian Detection** 2015
A. González, S. Ramos, D. Vázquez, A. López, & J. Amores
In *Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA)*
- Incremental Domain Adaptation of Deformable Part-based Models** 2014
J. Xu, S. Ramos, D. Vázquez & A. López
In *British Machine Vision Conference (BMCV)*
- Cost-sensitive Structured SVM for Multi-category Domain Adaptation** 2014
J. Xu, S. Ramos, D. Vázquez & A. López
In *International Conference on Pattern Recognition (ICPR)*
- Random Forests of Local Experts for Pedestrian Detection** 2013
J. Marín, D. Vázquez, A. López, J. Amores & B. Leibe
In *IEEE International Conference on Computer Vision (ICCV)*
- Learning a Multiview Part-based Model in Virtual World for Pedestrian Detection** 2013
J. Xu, D. Vazquez, A. Lopez, J. Marin, & D. Ponsa
In *IEEE Intelligent Vehicles Symposium (IV)*
- Unsupervised Domain Adaptation of Virtual and Real Worlds for Pedestrian Detection** 2012
D. Vázquez, A. López & D. Ponsa
In *International Conference on Pattern Recognition (ICPR)*
- Improving HOG with Image Segmentation: Application to Human Detection** 2012
Y. Socarrás, D. Vázquez, A. López, D. Gerónimo & T. Gevers
In *Int. Conference on Advanced Concepts for Intelligent Vision Systems (ACIVS)*
- Virtual Worlds and Active Learning for Human Detection** 2011
D. Vázquez, A. M. López, D. Ponsa, & J. Marín
In *International Conference on Multimodal Interaction (ICMI)*
- Color Contribution to Part-Based Person Detection in Different Types of Scenarios** 2011

M. Rao, D. Vázquez & A. M. López

In *Int. Conference on Computer Analysis of Images and Patterns (CAIP)*

Opponent Colors for Human Detection

2011

M. Rao, D. Vázquez & A. M. López

In *Iberian Conference on Pattern Recognition and Image Analysis (IBPRIA)*

Learning Appearance in Virtual Scenarios for Pedestrian Detection 2010

J. Marín, D. Vázquez, D. Gerónimo, & A. López

In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*

Workshop Papers

Multi-task Bilinear Classifiers for Visual Domain Adaptation

2013

J. Xu, S. Ramos, X. Hu, D. Vázquez & A. M. López

In *Advances in Neural Information Processing Systems (NIPS)* Workshop

Adapting Pedestrian Detection from Synthetic to Far Infrared Images 2013

Y. Socarrás, S. Ramos, D. Vázquez, A. M. López & T. Gevers

In *International Conference of Computer Vision (ICCV)* Workshop

Adapting a Pedestrian Detector by Boosting LDA Exemplar Classifiers 2013

J. Xu, D. Vázquez, S. Ramos, A. López, & D. Ponsa

In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* Workshop

Weakly Supervised Automatic Annotation of Pedestrian Bounding Boxes 2013

D. Vázquez, J. Xu, S. Ramos, A. López, & D. Ponsa

In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* Workshop

Cool world: domain adaptation of virtual and real worlds for human detection using active learning

2011

D. Vázquez, A. M. López, D. Ponsa, & J. Marín

In *Advances in Neural Information Processing Systems (NIPS)* Workshop

Technical Reports

A Benchmark for Endoluminal Scene Segmentation of Colonoscopy Images 2017

David Vazquez, Jorge Bernal, F. Javier Sanchez, Gloria Fernandez-Esparrach, Antonio Lopez, Adriana Romero, Michal Drozdal, Aaron Courville

In *ArXiv (ArXiv)*

The One Hundred Layers Tiramisu: Fully Convolutional DenseNets for Semantic Segmentation 2016

Simon Jégou, Michal Drozdal, David Vazquez, Adriana Romero and Yoshua Bengio

In *Arxiv* ()

Stereo Matching using SGM on the GPU

2016

Daniel Hernandez, Alejandro Chacon, Antonio Espinosa, David Vazquez, Juan Carlos Moure and Antonio M. Lopez

In *Programming and Tuning Massively Parallel Systems (PUMPS)*

Node-Adapt, Path-Adapt and Tree-Adapt:Model-Transfer Domain Adapta-

tion for Random Forest 2016
 Azadeh S. Mozafari, David Vazquez, Mansour Jamzad and Antonio M. Lopez
 In *Arxiv* ()

Spatiotemporal Stacked Sequential Learning for Pedestrian Detection 2011
 A. González, S. Ramos, D. Vázquez, A. M. López, & J. Amores
 In (**ArXiv**)

Hierarchical Adaptive Structural SVM for Domain Adaptation 2011
 J. Xu, S. Ramos, D. Vázquez, & A. M. López
 In (**ArXiv**)

Thesis

Domain Adaptation of Virtual and Real Worlds for Pedestrian Detection 2013
 D. Vázquez
 In *Ph.D. thesis, Ediciones Gráficas Rey, Barcelona*

The Effect of the distance in Pedestrian Detection 2009
 D. Vázquez
 In *Master Thesis, Autonomous University of Barcelona*

DEMOS

Elektra Autonomous Vehicle 2016
 G. Villalonga, G. Ros, J.L. Gómez, S. Silva, D. Hernández, A. M. Lopez
Demo at the UAB for NVIDIA 2016, Barcelona

Photo-realistic Virtual Worlds to Boost Video Understanding and Autonomous Driving: Introducing SYNTHIA & Virtual KITTI 2016
 A. Gaidon, G. Ros, A. M. Lopez, E. Vig, D. Vázquez, Q. Wang
Demo at the Computer Vision and Pattern Recognition Conf. (CVPR) 2016, Las Vegas

Autonomous Vehicle Simulator 2015
 A. Gonzalez, G. Villalonga, A. Shuvín, L. Sellart, D. Vázquez, G. Ros & A. M. López
Nit de la recerca 15, Barcelona

Autonomous Vehicle Simulator 2015
 A. Gonzalez, G. Villalonga, A. Shuvín, L. Sellart, D. Vázquez, G. Ros & A. M. López
CERCA 15, Barcelona

3D Pedestrian Detection via Random Forest 2015
 A. Gonzalez, G. Villalonga, G. Ros, D. Vazquez & A. M. Lopez.
Demo at Iberian Pattern Recognition and Image Analysis (IbPRIA), Santiago de Compostela

Autonomous Vehicle Simulation 2015
 A. Gonzalez, G. Villalonga, A. Shuvín, L. Sellart, G. Ros, D. Vazquez & A. M. Lopez.
MEMEnginy 15, feast of engineering school (ETSE), Barcelona

Autonomous Vehicle Simulator 2015
 A. Gonzalez, G. Villalonga, A. Shuvín, L. Sellart, D. Vázquez, G. Ros & A. M. López

NOVUM 15, Science feast of Barcelona

3D Pedestrian Detection 2015

A. Gonzalez, G. Villalonga, G. Ros, D. Vazquez & A. M. Lopez.
Saló del Ensenyament, Barcelona

3D Pedestrian Detection via Random Forest 2014

G. Villalonga, S. Ramos, G. Ros, D. Vazquez & A. M. Lopez.
Demo at European Conference on Computer Vision (ECCV), Zurich

3D Pedestrian Detection 2014

G. Villalonga, S. Ramos, G. Ros, D. Vazquez & A. M. Lopez.
MEMEnginy 14, feast of engineering school (ETSE), Barcelona

Real-time Pedestrian Detection via Random Forest 2013

J. Marin, S. Ramos, D. Vazquez, A. M. Lopez, J. Amores, B. Leibe & G. Ros
Demo at British Machine Conference (BMVC)

Eco-Driver project 2013

D. Vázquez, S. Ramos, J. Xu, G. Ros & A. M. López
Barcelona Party [Science + Technology]

Eco-Driver project 2013

D. Vázquez, J. Marín & A. M. López
MIPRCV Industry day

Eco-Driver project 2012

D. Vázquez & A. M. López
Mobility and transport in the Smart Cities

Eco-Driver project 2012

D. Vázquez & A. M. López
Expoelectric Fórmula-E

INVITED TALKS

Artificial Intelligence Techniques for Data Mining & Big Data, Pamplona, Spain 05.04.2017

Elektra autonomous vehicle & Deep Learning basics

Zoox, San Francisco 01.07.2016

The SYNTHIA Dataset: A Large Collection of Synthetic Images for Semantic Segmentation of Urban Scenes

MyCore – TELSEA Workshop, Barcelona 05.02.2016

GPU optimization for Autonomous Driving

Auniversity of Alcalá, Madrid 26.11.2015

Learning to See in a Virtual World

Pint of Science, Barcelona 21.04.2015

Autonomous Vehicles

ST Dynamics, Singapore 07.11.2014

Advanced Driver Assistance Systems and Autonomous Vehicles

	Samsung Research, Poland <i>Random Forest of Local Experts for Pedestrian Detection</i>	15.06.2014
	Rey Juan Carlos University (URJC) Face Recognition and Artificial Vision (FRAV), Madrid (Spain) <i>Domain Adaptation of Virtual and Real Worlds for Pedestrian Detection</i>	31.10.2013
	Daimler AG, Research & Development Environment Perception Group, Sindelfingen (Germany) <i>Domain Adaptation of Virtual and Real Worlds for Pedestrian Detection</i>	23.09.2013
	University of Zaragoza Robotics and Real Time Group, Zaragoza (Spain) <i>Autonomous Driving: when 3D Mapping meets Semantics</i>	06.11.2013
SELECTED MEDIA COVERAGE	Virtual and Real World Adaptation for Pedestrian Detection In <i>Autonomous University of Barcelona News</i>	2014
	How Self-Driving Cars Will Sneak Onto Our Roads In <i>IEEE Spectrum</i>	2014
	Report at Connexió Barcelona program about Eco-Driver project In <i>Barcelona Televisió - BTV</i>	2013
	News report about Eco-Driver project In <i>Euskal Telebista - ETB</i>	2013
	News report about Eco-Driver project: Technology can help avoiding accidents produced by human errors In <i>Televisió de Catalunya - TV3</i>	2013
	Note: For a complete list of media events follow this link	
ACADEMIC SERVICES	Journal editor: ELCVIA Electronic Letters on Computer Vision and Image Analysis (ELCVIA). Special Issue on Recent PhD Thesis Dissemination, 2016.	
	IET Computer Vision journal (IET-CV) . Special Issue on Deep Learning in Computer Vision, with Dr. Tim Hospedales, 2016.	
	Reviewing conferences: ECCV/ICCV(2016-2017), CVPR(2017), BMVC(2016-2017), ICPR(2012-2016), IV (2015-2017), IbPRIA(2015), WSCG(2015), & WACV(2015-2017)	
	Reviewing journals: Elsevier Pattern Recognition Letters(2015), Robotics(2013), IEEE TCSVT(2014-2015), Elsevier ELCVIA(2014-2015), Elsevier Knosys (2014-2015), Elsevier Image Communication (2014-2015), Elsevier Eng. Application of AI (2015), Elsevier Infrared Physics & Technology (2014), Sensors Journal(2014-2015), Int. Transport. Systems(2014-2015) & World J. of Computer Application and Technology	
	Program commite: Robot(2015)	

Session chair: IbPRIA(2015)

Thesis commite: UAB - Bachelor Thesis (2013-2016), UAB - Master Thesis (2014-2016)

Ph.D. Thesis of **Carolina Redondo** from Universidad de Alcalá, Madrid, Spain. Object Classification, Detection and Pose Estimation

Co-chair conferences:

7th Iberian Conference on Pattern Recognition and Image Analysis (**IbPRIA**). Demos chair with X. R. Fdez-Vidal and D. L. Vilariño. In conjunction with **AERFAI & APRP** 2015.

Co-chair workshops:

International Workshop on Transferring and Adapting Source Knowledge in Computer Vision (**TASK-CV**) with K. Saenko, B. Usman, X. Peng, J. Hoffman, D. Wang, A. M. López, W. Li, F. Orabona, T. Tommasi. In conjunction with **ECCV** 2017.

International Workshop on Computer Vision in Vehicular Technology (**CVVT**) with J. M. Álvarez, A. M. Lopez M. Enzweiler, T. Pajdla and G. Villalonga. In conjunction with **CVPR** 2017.

Virtual/Augmented Reality for Visual Artificial Intelligence (**VARVAI**) with A. M. López, A. Gaidon, G. Ros, E. Vig, H. Su, and F. Perronnin. In conjunction with **ECCV** 2016.

International Workshop on Transferring and Adapting Source Knowledge in Computer Vision (**TASK-CV**) with Wen Li, A. M. Lopez, F. Orabona, T. Tommasi, H. Larochelle, and J. Xu. In conjunction with **ECCV** 2016.

International Workshop on Computer Vision in Vehicular Technology (**CVVT**) with J. M. Álvarez, A. M. Lopez and T. Pajdla. In conjunction with **CVPR** 2016.

International Workshop on Transferring and Adapting Source Knowledge in Computer Vision (**TASK-CV**) with A. M. Lopez, F. Orabona, T. Tommasi, H. Larochelle, E. Rodner and J. Xu. In conjunction with **ICCV** 2015.

International Workshop on Computer Vision in Vehicular Technology (**CVVT**) with J. M. Álvarez, A. M. Lopez, T. Pajdla and S. Ramos. In conjunction with **CVPR** 2015.

International Workshop on Scene Understanding for Autonomous Systems (**SUAS**) with S. Ramos, R. Urtasun, A. Torralba, N. Barnes, M. Enzweiler and A. Lopez In conjunction with **ACCV** 2014

International Workshop on Transferring and Adapting Source Knowledge in Computer Vision (**TASK-CV**) with A. M. Lopez, K. Saenko, F. Orabona, S. Ramos and J. Xu. In conjunction with **ECCV** 2014.

International Workshop on Computer Vision in Vehicular Technology with Special Session in Micro Aerial Vehicles (**CVVT**) with F. Fraundorfer, D. Geronimo, D. Scaramuzza, H. Bischof, A. Imiya, A. M. Lopez, T. Pajdla, M. Pollefeys and S. Ramos. In conjunction with **ECCV** 2014.

Annual Catalan Meeting in Computer Vision 2014 (**ACMCV**) with M. Vanrell, X.

Binefa, V. Vilaplana, D. Masip, J. Vázquez and R. Morros, (**CVC**) Barcelona.

Workshop on Computer Vision Trends and Challenges 2013-2014 (**CVCRD**), (**CVC**) Barcelona.

Vision Reading Group 2013-2015 with J. van de Weijer, A. D. Bagdanov and S. Ramos at the Computer Vision Center (**CVC**) Barcelona.

ADAS Reading Group 2012 with G. Ros at the Computer Vision Center (**CVC**) Barcelona.

MENTORING

Ph.D Students

Daniel Hernández, Ph.D. Student, UAB **2015-now**
Ph.D. Thesis: Real-time Autonomous Driving on GPGPU

Gabriel Villalonga, Ph.D. Student, UAB **2015-now**
Ph.D. Thesis: End-to-End Autonomous Driving via DCNNs

Zhijie Fang, Ph.D. Student, UAB **2014-now**
Ph.D. Thesis: Pedestrian intention analysis

Alejandro González, Ph.D. Student, UAB **2013-2015**
Ph.D. Thesis: SpatioTemporal Information for pedestrian detection (**Exelent Cum Laude**)

Master Students

Eugenio Alcalá, M.Sc. Student, UPC **2015-2016**
M.Sc. Thesis: Autonomous vehicle control and planning

Jordi Frias, M.Sc. Student, UAB **2015-2016**
M.Sc. Thesis: Semantic Segmentation with Deep Learning

Albert Mosella, M.Sc. Student, UAB **2015-2016**
M.Sc. Thesis: Deep Learning for Autonomous Driving

Akhil Gurram, M.Sc. Student, UAB **2015-2016**
M.Sc. Thesis: Monocular Depth Estimation via Deep Learning

Ashraful Alam Milton, M.Sc. Student, UAB **2015-2016**
M.Sc. Thesis: Pedestrian detection with Deep Learning based on Theano

Gabriel Villalonga, M.Sc. Student, UAB **2014-2015**
M.Sc. Thesis: Georeferenciate objects detected by stereo vision (**Best thesis award by IEEE-ITSS.**)

Manuel Granados, M.Sc. Student, UAB 2013-2014
M.Sc. Thesis: Semantic Scene Understanding for Urban Scenarios

Undergraduate Students - Thesis

Ferran Rey Jornet, B.Sc. Student, UAB 2016-2017
Thesis: Pedestrian and vehicle counting: Intelligent Traffic Lights

Cristian García, B.Sc. Student, UAB 2016-2017
Thesis: Vehicle-To-X Communications: Intelligent Traffic Lights

Cristian Gómez, B.Sc. Student, UAB 2015-2016
Thesis: Vehicle-To-X Communications: Intelligent Traffic Lights

Fracisco Molero, B.Sc. Student, UAB 2015-2016
Thesis: Dimension Defender: Desarrollo de un videojuego en 3D

Victor Campmany, B.Sc. Student, UAB 2015-2016
Thesis: Real-time Pedestrian Detection on GPGPU

Marcos Molero, B.Sc. Student, UAB 2015-2016
Thesis: Deep Learning Region based Classification

Javier Rodríguez, B.Sc. Student, UAB 2015-2016
Thesis: Region based Classification

Joanna Materzynska, B.Math. Student, UAB 2014-2015
Thesis: Semantic Segmentation with Convolutional Neural Networks (**with Honors**)

Alexandre Shubin, B.Sc. Student, UAB 2014-2015
Thesis: Autonomous Navigation Simulator

Jordi Frías, B.Math. Student, UAB 2014-2015
Thesis: High Level Representation for Autonomous Navigation (**with Honors**)

Sergi Canyameres, B.Sc. Student, UAB 2014-2015
Thesis: Deep Learning for Object detection (**with Honors**)

Javier Gómez Domínguez, B.Sc. Student, UAB 2014-2015
Thesis: Lane Departure Warning

Laura Sellar, B.Sc. Student, UAB 2014-2015
Thesis: Generation of Synthetic Data for Autonomous Driving Applications. **With Honors. Best thesis award by UAB.**

Andrea Álvarez, B.Sc. Student, UAB **2013-2014**
 Thesis: 3D Semantic Segmentation

Gabriel Villalonga, B.Sc. Student, UAB **2013-2014**
 Thesis: 3D Pedestrian Detection. **With Honors. Best thesis award by UAB.**

Undergraduate Students - Projects

Sergio Silva, B.Sc. Student, UAB **2015-2016**
 Project: Object detection implementation in CUDA

Cristian Gómez, B.Sc. Student, UAB **2014-2015**
 Project: Autonomous Driving maps

Victor Campmany, B.Sc. Student, UAB **2014-2015**
 Project: Object detection implementation in CUDA

Gerard Clotet, B.E.E. Student, UAB **2014**
 Project: Integration of Autonomous Driving Algorithms in ROS

Jordi Frias, B.Math. Student, UAB **2014**
 Project: 3D Ground Plane Estimation

Sergi Canyameres, B.Sc. Student, UAB **2012-2013**
 Project: Virtual World for ADAS

High School Students

Javier Domingo Sierra, H.S. Student, UAB **2014-2015**
 Thesis: Driver Monitoring (**with Honors**)

Alejandro Daniel Noel, H.S. Student, La Salle Bonanova **2014-2015**
 Thesis: [Autonomous Driving](#) (**with Honors**)

INVITED
 CONFERENCES

Invitation to participate at Dagstuhl Seminar on Vision for Autonomous Vehicles and Probes **2015**
 - Dagstuhl brings together the world's leading researchers, practitioners, and young talents to discuss their ideas for fostering new directions and fields in computer science

The Future of Urban Mobility Series: Automotive trends in urban mobility. IESE Bussines School. Barcelona, Spain **2015**

Salón Internacional del automóvil. **2015**
 Technical Symposium on [Intelligent Vehicles](#). Barcelona, Spain

	GPU Technology Conference. San Jose, EEUU	2015
	Mobile World Congress. Barcelona, Spain	2015
FELLOWSHIP	Tecniospring - Marie Curie - Postdoctoral fellowship	2016-2018
	Juan de la Cierva - Postdoctoral fellowship	2015-2018
	PIF-UAB - Doctoral fellowship	2008-2012
	SICUE-SENECA - Mobility undergraduate fellowship (URJC)	2005-2006
	SICUE-SENECA - Mobility undergraduate fellowship (UAM)	2004-2005
AWARDS	GTC 2016 Awards - Best poster award at NVIDIA GTC 2016 <i>GPU-based pedestrian detection for autonomous driving</i>	2016
	IEEE Awards - Best PhD Thesis Award by IEEE Intelligent Transportation Systems Society Spanish section	2015
	AERFAI Awards - Best PhD Thesis Award by Spanish Computer Vision Association	2015
	UAB Awards - Best PhD Thesis Award by UAB	2015
	PIONER Awards - Best PhD Thesis Award by CERCA	2014
	RMRC Challenge (ECCV) - Second position in Pedestrian Detection	2014
	RMRC Challenge (ICCV) - Winners in Pedestrian Detection	2013
	Google award for the article: <i>Cool world: domain adaptation of virtual and real worlds for human detection using active learning</i> In <i>NIPS Domain Adaptation Workshop: Theory and Application</i>	2011
	ICMI Doctoral Consortium award for the article: <i>Virtual Worlds and Active Learning for Human Detection</i> In <i>ACM International Conference on Multimodal Interaction</i>	2011
SCIENTIFIC SOCIETIES:	Spanish Chapter – IEEE Intelligent Transportation Systems Society Position: Treasurer	2016-now
	AERFAI: Spanish Association of Pattern Recognition and Image Analysis Position: Member	2011-now
	IEEE Computer Society Position: Member	2011-now

TEACHING CREDENTIALS:	AQU - Certified by AQU as "Profesor Lector"	2015
	UAB - Teaching courses - 7 different teaching courses	2013-2015